

AMENDMENT TO THE SPECIFICATION

[045] In the various embodiments of the present invention, preferably the high slope DK material used in the PCB substrates has a dielectric constant of at or about 4.0 at 1MHz with a rate of decline being 0.4 per decade of frequency between 1MHz and 1GHz. The low slope DK material used in the PCB substrates preferably has a dielectric constant of at or about 4.0, which should remain flat across the frequency range of 1MHz and 1GHz. As an example, materials such as FR-4 and/or Teflon can be used as the PCB substrates. Other commercially available high and low slope DK materials can be used. For instance, Nelco N4000-7 is an example of a high slope DK material usable in the PCB substrates of the present invention, and Nelco N4000-13 SI is an example of a low DK slope material usable in the PCB substrates of the present invention. Nelco N4000-7 has a dielectric constant of 4.5 at 1MHz and 3.9 at 1GHZ (e.g. a rate of decline of about 0.2 per decade of frequency across the frequency range of 1 MHz to 1 GHz), whereas Nelco N4000-13 SI has a dielectric constant of 3.6 at 1MHz and 3.5 at 1GHz. Also, if needed, the dielectric constant level of these materials can be easily adjusted by known techniques ~~adjusting the foot print areas of the interdigital or parallel plate capacitors~~. As such, a material having the dielectric constant in the range of about 3.0 to 5.0 at 1MHz can be used. Obviously other materials may be used.